

mended to vacation campers for use in either the dry or boiled state. In the land of "Ten Thousand Lakes" where the parched grain is comparatively cheap and is usually a part of the daily meal, the woodman has the advantage of the man of the city, who must pay exorbitant prices for it to cover handling charges and profits. Under these circumstances wild rice in the city home is seldom used except on special occasions.

Knowing how some like the grain, we may assume that all would be just as enthusiastic "ffor each man a handfull of that they putt in the pott" and would exclaim with Wenibozho, "Oh, you are indeed good!"

PALEONTOLOGY.—*Paralbula*, a new fossil fish based on dental plates from the Eocene and Miocene of Maryland.<sup>1</sup> S. F. BLAKE, Washington, D. C.

In the fall of 1935, my wife, Doris H. Blake, found a nearly perfect specimen of the crushing dentition of some fish on the shore of the Potomac River at Liverpool Point, Charles County, Md. The deposits exposed in the bank at this place belong to the Piscataway member of the Aquia formation (Lower Eocene), and the specimen, although not found in situ, can be attributed to this period with as much confidence as the teeth of *Lamna obliqua* and other sharks found in abundance on the Potomac shore at the same locality. The specimen was given to the U. S. National Museum and has since been recorded and figured by Dr. George S. Myers.<sup>2</sup> Dr. Myers identified the specimen as one of the Albulidae (ladyfishes), which he regarded as including among living forms only two monotypic genera, but he refrained from giving a name to the specimen or even assigning it to a genus because the crushing tooth plates of the two existing genera are not distinguishable.

The nearly perfect condition of this specimen and the fact that it was the first fossil representative of the Albulidae to be recorded from America, with the exception of a scale from the Cretaceous of Florida described as *Albula antiqua* Cockerell,<sup>3</sup> seemed to make it desirable to assign a specific name to it, if only to prevent it from being overlooked. Examination of the pertinent literature and of alcoholic specimens of *Albula vulpes* kindly made available by Dr. L. P. Schultz soon showed that this dental plate could not be referred to either of

<sup>1</sup> Received January 12, 1940.

<sup>2</sup> MYERS, G. S. A third record of the albulid fish *Dixonina nemoptera* Fowler, with notes on an albulid from the Eocene of Maryland. *Copeia* 1936(2): 83-85, fig. 1. 1936.

<sup>3</sup> *Copeia* 1933: 226. 1933.

the recognized existing genera of the Albulidae. In *Albula*, the best-known representative of the family, the lower dental plate is twice as long as wide, or more, and bears only a single layer of teeth, which on dropping out leave a circular rounded-out pit in the surface of the supporting bone. This description applies to the fossil species, two of which are described from the Eocene of England, and one from that of Nigeria, as well as to the living one. The Maryland fossil is much wider in proportion to its length, and its teeth are superposed in irregular piles of 4 to 6, or probably more in the center of the plate, and on breaking or wearing they do not leave a cavity but are replaced from beneath, as in *Phyllodus* and some other genera of fossil fishes. The teeth, moreover, as shown in the accompanying sketches, are quite different in structure from those of *Albula*.

In superficial appearance the plate in question is very similar to the original illustrations of *Egertonia*, a genus described by Cocchi from the Eocene of England. Errol I. White, of the British Museum, to whom an enlarged photograph was sent for comparison with the type of *Egertonia*, reported that the latter is very different, the teeth resembling those of the related *Phyllodus*, being very thin, usually only slightly convex, with very numerous successors in piles, while both upper and lower plates are sigmoid in profile. Mr. White regards the Maryland specimen as representing an apparently undescribed genus, which may bear somewhat the same relationship to the albulids that *Labrodon* does to the labroids and *Diaphyodus* to the sciaenids—that is, a fossil form with pharyngeal dental plates similar in general to those of living forms, but having each tooth subtended by a pile of successional teeth. Its assignment to the Albulidae, however, must be regarded as only tentative.

***Paralbula* Blake, gen. nov.**

Pharyngeal dentition similar to that of *Albula*, but each tooth with a pile of subvertically arranged successors.

Type species, *P. marylandica*, n. sp.

***Paralbula marylandica* Blake, sp. nov.**

A nearly oval lower pharyngeal dental plate measuring 35 mm in length, 26 mm in width, and 11 mm in depth, broadly rounded at anterior end, subtruncate behind, convex-rounded on the oral surface, somewhat flattened along midline especially posteriorly, slightly concave on the attached surface. Triturating surface densely covered with jet-black, shining, sub-circular, depressed-hemispherical teeth, about 141 in all (including bases of broken-off teeth), not arranged in definite lines, the central ones 3.2–3.5 mm in diameter, the lateral gradually decreasing in size, the outermost 2–2.5 mm in diameter. The teeth are irregularly superposed in several layers separated by bony tissue, not in direct vertical piles, and have a very smooth, rounded,

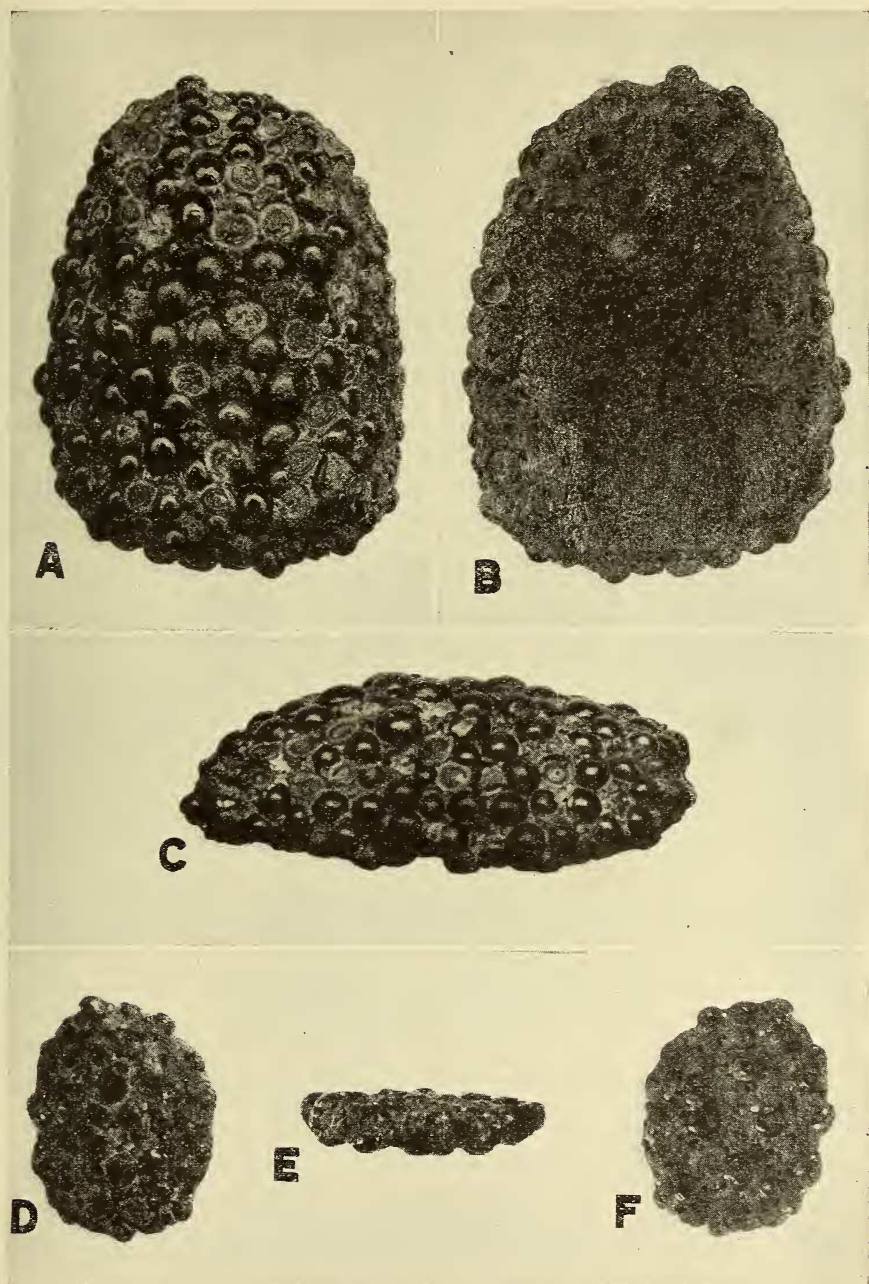


Fig. 1.—A, *Paralbula marylandica*, tritoral surface; B, attached surface; C, lateral view; D, *Paralbula dorisiae*, tritoral surface; E, lateral view; F, attached surface. All  $\times$  nearly 2.



depressed-hemispheric crown inflexed at base to form a horizontal, somewhat radially striate rim about 0.5 mm wide. On the attached surface, the specimen is somewhat more deeply eroded at the anterior end, and is there loosely and irregularly cellular, with occasional interspersed bases or interiors of teeth. The posterior half is better preserved and shows the bone cells arranged mostly in definite longitudinal rows, with on each side near the margin of the bone a shallow more or less wedge-shaped depression, bounded in front and on the inner side by a rather indefinite ridge, these evidently being the scars marking the points of attachment to the supporting pharyngeal bones.

*Type*.—U.S.N.M. no. 13855, collected on shore of Potomac River at Liverpool Point, Charles County, Md., October 13, 1935, by Doris H. Blake. The deposits at this point, from which the specimen undoubtedly came, belong to the Piscataway member of the Aquia formation, Lower Eocene.

In my own collection is a detached tooth with eroded base, measuring 4.5 mm in diameter, and evidently belonging to the same species, which I picked up on the beach at the same locality in 1938.

As this paper was being prepared for publication, Mrs. Blake picked up on the beach near the wharf at Plumpoint, Md., a much smaller and more im-



Fig. 2.—*a-c*, *Paralbula marylandica*: *a*, Cross section of tooth; *b*, view of tooth from beneath, showing the inflexed rim; *c*, view of scar left on oral surface of plate by a detached tooth. The outer ring, which is somewhat impressed and slants slightly toward the center, represents the area occupied by the inflexed rim of the tooth; the inner ring, which is elevated above the outer, is evidently a ring of denser bony tissue subtending the tooth inside the inflexed rim, and fitting against the somewhat beveled inner edge of the rim; the central circle is cellular bony tissue. *d-e*, *Paralbula dorisiae*: *d*, Typical tooth from beneath; *e*, from the side. All  $\times 5$ .

perfect specimen that seems to represent a second species of the genus. The teeth are higher in proportion to their width, the root is more slanting and much more strongly grooved, and the opening in its center, which is scarcely at all excavated, is much smaller. As no Eocene deposits are exposed within miles of Plumpoint, it seems necessary to ascribe this specimen to the Miocene, and probably to the Calvert formation, the one best developed at Plumpoint.

#### *Paralbula dorisiae* Blake, sp. nov.

An irregularly oval, much eroded dental plate 15.5 mm long, 12 mm wide, and about 4 mm deep, obscurely convex in cross section on oral surface and essentially plane in longitudinal section, flattish on attached surface. Triturating surface densely covered with blackish brown to light brown, sub-circular, depressed-subspherical teeth, about 40 in all (including bases of broken-off teeth), not arranged in definite lines, 1.5–2.2 mm in diameter, 1.2–1.7 mm deep. Teeth irregularly superposed in about three layers, or perhaps more in the center of the plate, separated by bony tissue, not in

direct vertical piles, with a smooth, almost hemispherical crown and strongly striate, slanting root often almost equaling the height of the crown and tapering to a subtruncate tip 0.8–1 mm wide. The cavity left in the bone by detached teeth is deeper than that in *P. marylandica*, with more strongly grooved sides, and the striated inner ring is not at all elevated; the central area is perforate in all the cavities visible in the specimen.

*Type*.—U.S.N.M. no. 16134, collected on shore of Chesapeake Bay close to and just south of the wharf at Plumpoint, Calvert County, Md., August 13, 1939, by Doris H. Blake. Probably from the Calvert formation of the Miocene, the best developed formation in the vicinity of Plumpoint.

BOTANY.—*Miscellaneous new American grasses*.<sup>1</sup> JASON R. SWALLEN, U. S. Bureau of Plant Industry.

During the identification of various collections of grasses in the past few years, the following species were found to be new, three of which are from the United States, i.e., *Poa fibrata*, *Stipa diegoensis*, and *Digitaria albicoma*.

***Chusquea sulcata* Swallen, sp. nov.**

Culmi graciles ramis floriferis fasciculatis adscendentibus 10–25 cm longis; vaginae internodiis longiores, glabrae, in ore hispidae marginibus ciliatis; ligula 0.5 mm longa, truncata; laminae 6–12 cm longae, 4–6 mm latae, acuminatae, glabrae marginibus sparse papilloso-hispidis; paniculae 4–10 cm longae, 5–10 mm latae, densae, ramis brevibus appressis; axis pubescens; glumae minutae obtusae enerves; lemmata sterilia obtusa vel subacuta, obscure 1–5-nervia, 2.5–3 mm longa; lemma fertile 6–7 mm longum, subacuminatum, obscure 7-nerved, exaristatum, glabrum; palea lemma aequans, sulcata, carinis approximatis pubescentibus, marginibus latis; antherae 4 mm longae.

Culms slender, probably clambering, the flowering branches in rather small ascending fascicles, 10–25 cm long; sheaths longer than the internodes, glabrous on the back, hispid in the throat, the margins ciliate; ligule about 0.5 mm long, truncate; blades 6–12 cm long, 4–6 mm wide, acuminate, narrowed toward the base, glabrous, sparsely papillose-hispid on the margins; panicles 4–10 cm long, 5–10 mm wide, rather dense, the short branches appressed, floriferous to the base, the axis glabrous or obscurely scabrous on the angles; glumes minute, obtuse, nerveless; sterile lemmas obtuse or subacute, apiculate, 1–5-nerved, the lateral nerves often obscure,  $\frac{1}{3}$  to  $\frac{1}{2}$  as long as the floret; lemma 6–7 mm long, subacuminate, obscurely 7-nerved, awnless, glabrous; palea as long as the lemma, sulcate, the keels close together, pubescent, the broad glabrous margins enclosing the flower; anthers 4 mm long.

Type in the U. S. National Herbarium, no. 1722000, collected on Mount Orlando, Chiapas, Mexico, April 1936, by E. Matuda (no. 321).

This species superficially closely resembles *C. nelsoni* Scribn., which has shorter and broader blades, pubescent panicle axis, larger glumes, acuminate, sterile lemmas, and strongly nerved, sparsely pilose, fertile lemma.

<sup>1</sup> Received October 26, 1939. All drawings by Mrs. Frances C. Weintraub.